CLAIMS

What is claimed is:

1.   A method for receiving and displaying advertisements transmitted through a communication link, the method comprising:

receiving program guide data from the communication link that includes first characterizing information associated with each of a plurality of television programs;

receiving advertising data from the communication link that includes a plurality of advertisements and second characterizing information associated with each of the plurality of advertisements;

storing the program guide data and advertising data in a memory;

maintaining a selection history in the memory that includes a portion of the first characterizing information which is associated with ones of the plurality of television programs selected by a user; and

displaying a set of the plurality of advertisements based on a comparison between the second characterizing information and the selection history.

2.   The method of claim 1, wherein the step of displaying the set of the plurality of advertisements based on the comparison between the second characterizing information and the selection history includes the step of calculating a similarity score for each of the plurality of advertisements and selecting the set of the plurality of advertisements based on the similarity scores.

3.   The method of claim 2, wherein the step of selecting the set of the plurality of advertisements based on the similarity scores includes the step of selecting advertisements from the plurality of advertisements having similarity scores greater than a predetermined threshold score.

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4.   The method of claim 2, wherein the step of selecting the set of the plurality of advertisements based on the similarity scores includes the step of selecting advertisements from the plurality of advertisements based on comparisons between the similarity scores.

5.   The method of claim 2, wherein the step of displaying the set of the plurality of advertisements based on the comparison between the second characterizing information and the selection history includes the step of adjusting display parameters for each advertisement within the set of the plurality of advertisements based on the similarity scores.

6.   The method of claim 2, wherein the step of calculating the similarity score for each of the plurality of advertisements includes the steps of comparing a list of common attributes from the selection history to the second characterizing information and calculating the result of a predetermined arithmetic expression based on the comparison of the list of common attributes to the second characterizing information.

7.   The method of claim 6, wherein the step of calculating the result of the predetermined arithmetic expression includes the steps of determining a set of common information between the list of common attributes and attributes within the second characterizing information and calculating a weighted summation based on the set of common information.

8.   The method of claim 1, wherein the step of maintaining a selection history includes the steps of identifying the user from a plurality of users and associating the portion of the first characterizing information with the user.

9. The method of claim 1, wherein the step of maintaining a selection history in the memory includes the step of storing information associated with television programs that are displayed for a predetermined range of time.

10. A method for broadcasting and displaying advertisements comprising:

transmitting program guide data and advertising data, wherein the program guide data includes program information that characterizes each of a plurality of television programs and wherein the advertising data includes a plurality of advertisements and advertisement information that characterizes each of the plurality of advertisements;

receiving the program guide data and advertising data;

storing the advertising data and program guide data in a memory;

maintaining a selection history that includes program information associated with television programs selected by a user;

calculating a similarity score for each of the plurality of advertisements received based on a comparison between attributes associated with each of the plurality of advertisements and attributes associated with the selection history; and

displaying a set of advertisements from the plurality of advertisements based on the similarity scores.

11. The method of claim 10, wherein the step of displaying the set of advertisements from the plurality of advertisements includes the step of repeating the display of an advertisement from the set of advertisements at a frequency based on the similarity score of the advertisement.

12. The method of claim 10, wherein the step of displaying the set of advertisements from the plurality of advertisements based on the similarity scores includes the step of prioritizing the advertisements within the set of advertisements for display based on the similarity scores of the advertisements within the set of advertisements and displaying the advertisements within the set of advertisements in order of priority.

13. The method of claim 10, wherein the step of displaying the set of advertisements from the plurality of advertisements based on the similarity scores includes the step of displaying advertisements having a similarity score greater than a predetermined threshold similarity score.

14. The method of claim 10, wherein the step of storing advertising data includes the steps of storing advertisements having a similarity score greater than a predetermined threshold similarity score and discarding advertisements having a similarity score less than or equal to the predetermined threshold similarity score.

15. The method of claim 10, wherein the step of calculating the similarity score for each of the plurality of advertisements received based on the comparison between attributes associated with each of the plurality of advertisements and attributes associated with the selection history includes the steps of compiling a list of attributes common among the attributes stored in the selection history and counting the attributes associated with each of the plurality of advertisements that are also in the list of attributes common among the attributes stored in the selection history.

16. The method of claim 10, wherein the step of storing the advertising data in the memory includes the step of determining if each of the plurality of advertisements received has a similarity score greater than an advertisement from the set of advertisements.

17.   The method of claim 10, wherein the step of storing the advertising data in the memory includes the step of determining if the memory has sufficient space to store each of the plurality of advertisements.

18.   The method of claim 10, wherein the step of storing advertising data includes the step of storing an advertisement beyond a display lifetime associated with the advertisement when the advertisement has a similarity score greater than a predetermined threshold similarity score.

19.   The method of claim 10, wherein the step of displaying the set of advertisements from the plurality of advertisements includes the steps of selecting advertisement images associated with each of the plurality of advertisements based on the similarity scores for each of the plurality of advertisements and displaying the selected advertisement images.

20.   A method of displaying advertisements transmitted over a communication link, the method comprising:

receiving advertising data from the communication link that includes a plurality of advertisements which each have first and second images associated therewith;

storing the advertising data in a memory;

selecting a first advertisement from the stored advertising data;

displaying the first image of the first advertisement;

receiving an image modification signal from a user; and

displaying the second image of the first advertisement in response to the image modification signal received from the user.

21. The method of claim 20, wherein the step of receiving the image modification signal from the user includes the step of receiving an image modification signal associated with enlargement of one of the first and second images of the first advertisement.

22. The method of claim 20, wherein the step of receiving the image modification signal from the user includes the step of receiving an image modification signal associated with reduction of one of the first and second images of the first advertisement.

23. The method of claim 20, wherein the step of receiving an image modification signal from the user includes the step of receiving an image modification signal associated with deletion of one of the first and second images of the first advertisement.

24. The method of claim 20, further comprising the steps of:
receiving a user request that identifies a set of information that the user has requested in response to a displayed advertisement;
storing the user request in the memory;
retrieving the user request from the memory; and
transmitting the user request to a central processing station.

25. The method of claim 24, further comprising the steps of :
transmitting a signal acknowledging receipt of the user request;
displaying a message indicating the user request has been transmitted; and
clearing the acknowledged user request from the memory.

Subset 26. A system for use in displaying advertisements within an electronic program guide, the system comprising:

a transmitter that broadcasts a plurality of advertisements having a set of advertisement attributes and a plurality of television programs having a set of program attributes;

a receiver that receives and separates the plurality of advertisements from the plurality of television programs;

a memory coupled to the receiver that stores the plurality of advertisements and the set of advertisement attributes;

a controller coupled to the receiver and the memory that stores the set of program attributes in a selection history table in the memory and that identifies a first advertisement based on a correlation between the set of program attributes stored in the selection history table and the advertisement attributes associated with the first advertisement; and

a display that displays the first advertisement within the electronic program guide.

27. The system of claim 26, wherein the selection history table includes a plurality of selection histories and each of the selection histories contains program attributes associated with televison programs selected by one of a plurality of users.

28. The system of claim 26, wherein the program attributes and the advertisement attributes include category information.

29. The system of claim 26, wherein the program attributes and the advertisement attributes include key words and phrases.

30. The system of claim 26, wherein the program attributes and the advertisement attributes include series information.

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31.   The system of claim 26, wherein the program attributes and the advertisement attributes include group information.

32.   The system of claim 26, wherein the program attributes and the advertisement attributes include credits information.

33.   The system of claim 26, wherein the program attributes and the advertisement attributes include name information.

34.   The system of claim 26, wherein each of the plurality of advertisements includes an advertising object having attributes characterizing the content of the advertisement and wherein the advertising object points to a content object having advertising content.

35.   The system of claim 34, wherein the content object is a hyper text markup language object.

36.   The system of claim 26, wherein a remote control communicates first and second television programs selected by the user and wherein the receiver identifies an elapsed time between the first television program and the second television program and stores the program attributes associated with the first television program if the elapsed time is within a predetermined time period.

37.   The system of claim 36, wherein the predetermined time period is greater than about 5 minutes and less than about 12 hours.

38. The system of claim 26, wherein a group of television programs from the plurality of television programs is selected by the user with a remote control, the controller stores the program attributes associated with the group of television programs in the selection history table, the controller calculates a similarity score for each of the plurality of advertisements stored in the memory based on the correlation between the advertisement attributes associated with each of the plurality of advertisements and the program attributes stored in the selection history table, the controller calculates a similarity score for a subsequently received advertisement based on a correlation between advertisement attributes associated with the subsequently received advertisement and the program attributes stored in the selection history table, and the controller identifies and replaces a stored advertisement having the lowest similarity score with the subsequently received advertisement.

39. The system of claim 38, wherein each of the plurality of advertisements has a plurality of advertisement images and wherein the controller selects an image from the plurality of advertisement images based on the similarity score for each of the plurality of advertisements.

40. The system of claim 39, wherein the remote control has a set of image altering buttons that select and modify advertisement images.

41. The system of claim 40, wherein one of the image altering buttons causes an advertisement image to be enlarged.

42. The system of claim 40, wherein one of the image altering buttons causes an advertisement image to be reduced.

43. The system of claim 40, wherein one of the image altering buttons causes an advertisement image to be deleted.

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44. The system of claim 26, wherein the controller stores statistical information in the memory and the statistical information represents the numbers of times that advertisements are displayed and wherein the system further comprises a central processing station that receives and processes the statistical information.

Sub (27) 45. A system for receiving and displaying advertisements in an electronic program guide, the system comprising:

a receiver for receiving a plurality of advertisements having advertisement attributes and a plurality of television programs having program attributes;

a memory coupled to the receiver for storing the plurality of advertisements;

a controller coupled to the receiver and the memory that is adapted to store program attributes associated with ones of the plurality of the received television programs selected by a user in a selection history table, wherein the controller is further adapted to calculate a similarity score for each of the received plurality of advertisements based on a correlation between the program attributes in the selection history table and the advertisement attributes of each of the plurality of advertisements received; and

a display screen for displaying in the program guide a set of the plurality of advertisements based on the similarity scores.

46. The system of claim 45, further including a remote control that communicates to the receiver a television program selected from the plurality of television programs by a user.

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47.   The system of claim 45, wherein the controller is further adapted to determine whether the memory has available storage space for each of the plurality of advertisements upon receipt.

48.   The system of claim 47, wherein the controller is further adapted to store a predetermined maximum number of advertisements in the memory and wherein when the number of advertisements within the plurality of advertisements exceeds the predetermined maximum number of advertisements, the controller stores advertisements from the plurality of advertisements having the highest similarity scores.

49.   The system of claim 45, wherein each of the plurality of advertisements stored in the memory has a predetermined lifetime which identifies a time for the controller to discard the advertisement from the memory and wherein the controller is further adapted to retain beyond the predetermined lifetime those of the plurality of advertisements that have a similarity score higher than a cutoff similarity score.

50.   The system of claim 46, further comprising a central processing station, wherein the remote control is adapted to send the receiver a first request for information in response to one of the set of the plurality of displayed advertisements and wherein the controller is further adapted to store the first request in the memory and convey the first request to the central processing station.

51.   The system of claim 50, wherein the receiver is uniquely identified by a serial number that identifies the location and user of the receiver and wherein a signal communicating the first request to the central processing station also communicates the receiver serial number to the central processing station.

52.   The system of claim 50, wherein the receiver receives a signal from the central processing station that communicates a processing status for the first request, the receiver is adapted to display a message that communicates the processing status for the first request on the display screen, and the receiver is further adapted to delete the first request from the memory.

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